WHAT IS CLAIMED IS:

1. A method for identifying an inhibitor of bitter taste comprising (i) contacting a taste receptor with a G-protein, selected from the group consisting of transducin and gustducin, and a bitter tastant, under conditions suitable for activation of the G-protein by the bitter tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a G-protein selected from the group consisting of transducin and gustducin, the bitter tastant, and a test inhibitor, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), where the conditions are essentially the same as in part (i), and where the test inhibitor is a structural homolog of adensoine monophosphate; and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level of activation of the G-protein measured in part (ii), wherein a lower level of activated G-protein in the presence of the test inhibitor has a positive correlation with an ability of the test inhibitor to inhibit the perception of a bitter taste associated with the tastant.

2. The method of claim 1, where the taste receptor is comprised in an extract of taste receptor cells.

3. The method of claim 2, where the extract is a composition comprising taste cell membranes.

4. The method of claim 2, where the levels of G-protein activation in parts (i) and (ii) are measured by determining the sensitivity of the G-protein to trypsin digestion.

5. The method of claim 3, where the levels of G-protein activation in parts (i) and (ii) are measured by determining the sensitivity of the G-protein to trypsin digestion.

6. The method of claim 4, where the sensitivity of the G-protein to trypsin digestion is evaluated by determining the size of G-protein fragments resulting from exposure of the G-protein to trypsin.

7. The method of claim 5, where the sensitivity of the G-protein to trypsin digestion is evaluated by determining the size of G-protein fragments resulting from

exposure of the G-protein to trypsin.

8. The method of claim 1, where the taste receptor is comprised in a taste receptor cell in an animal.

9. The method of claim 8, where the activation of G-protein is measured by nerve recording, wherein an increase in nerve response correlates with G-protein activation.

10. The method of claim 8, where the activation of G-protein is measured by the consumption of a composition comprising the bitter tastant, and wherein an aversive response to the composition has a positive correlation with G-protein activation.

11. The method of claim 1, wherein step (iii) identifies a lower level of activated G-protein in the presence of the test inhibitor, and the test inhibitor is further determined to elicit the perception of sweet taste.

12. A method for identifying an inhibitor of bitter taste comprising (i) contacting, *in vitro*, a taste receptor with a solution comprising a G-protein selected from the group consisting of transducin and gustducin, and a bitter tastant, under conditions suitable for activation of the G-protein by the bitter tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a solution comprising a G-protein selected from the group consisting of transducin and gustducin, the bitter tastant, and a test inhibitor, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), where the conditions are essentially the same as in part (i), and where the test inhibitor is a structural homolog of adenosine monophosphate; and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level of activation of the G-protein measured in part (ii), wherein a lower level of activated G-protein in the presence of the test inhibitor has a positive correlation with an ability of the test inhibitor to inhibit the perception of a bitter taste associated with the tastant.

13. The method of claim 12, where the taste receptor is comprised in an extract of taste receptor cells.

14. The method of claim 13, where the extract is a composition

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comprising taste cell membranes.

15. The method of claim 13, where the levels of G-protein activation in parts (i) and (ii) are measured by determining the sensitivity of the G-protein to trypsin digestion.

16. The method of claim 14, where the levels of G-protein activation in parts (i) and (ii) are measured by determining the sensitivity of the G-protein to trypsin digestion.

17. The method of claim 15, where the sensitivity of the G-protein to trypsin digestion is evaluated by determining the size of G-protein fragments resulting from exposure of the G-protein to trypsin.

18. The method of claim 16, where the sensitivity of the G-protein to trypsin digestion is evaluated by determining the size of G-protein fragments resulting from exposure of the G-protein to trypsin.

19. A method for identifying an inhibitor of bitter taste comprising (i) contacting, *in vitro*, a taste receptor with a solution comprising a G-protein selected from the group consisting of transducin and gustducin, and a bitter tastant, under conditions suitable for activation of the G-protein by the bitter tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a solution comprising a G-protein selected from the group consisting of transducin and gustducin, the bitter tastant, and a test inhibitor, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), where the conditions are essentially the same as in part (i), and where the test inhibitor is not a peptide; and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level of activation of the G-protein measured in part (ii), wherein a lower level of activated G-protein in the presence of the test inhibitor has a positive correlation with an ability of the test inhibitor to inhibit the perception of a bitter taste associated with the tastant.

20. The method of claim 19, where the taste receptor is comprised in an extract of taste receptor cells.

21. The method of claim 20, where the extract is a composition

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comprising taste cell membranes.

22. The method of claim 20, where the levels of G-protein activation in parts (i) and (ii) are measured by determining the sensitivity of the G-protein to trypsin digestion.

23. The method of claim 21, where the levels of G-protein activation in parts (i) and (ii) are measured by determining the sensitivity of the G-protein to trypsin digestion.

24. The method of claim 22, where the sensitivity of the G-protein to trypsin digestion is evaluated by determining the size of G-protein fragments resulting from exposure of the G-protein to trypsin.

25. The method of claim 23, where the sensitivity of the G-protein to trypsin digestion is evaluated by determining the size of G-protein fragments resulting from exposure of the G-protein to trypsin.

26. A method for identifying an inhibitor of bitter taste *in vivo* comprising (i) contacting a taste receptor with a G-protein, selected from the group consisting of transducin and gustducin, and a bitter tastant, under conditions suitable for activation of the G-protein by the bitter tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a G-protein selected from the group consisting of transducin and gustducin, the bitter tastant, and a test inhibitor, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), where the conditions are essentially the same as in part (i); and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level of activation of the G-protein measured in part (ii), wherein a lower level of activated G-protein in the presence of the test inhibitor has a positive correlation with an ability of the test inhibitor to inhibit the perception of a bitter taste associated with the tastant.

27. A method for identifying an inhibitor of bitter taste *in vivo* comprising (i) offering a test animal the choice of consuming either (a) a composition comprising a bitter tastant or (b) the composition comprising the bitter tastant as well as a test inhibitor; and (ii) comparing the amount of consumption of the composition according to

(a) or (b), wherein greater consumption of the composition according to (b) has a positive correlation with an ability of the test inhibitor to inhibit the perception of bitter taste associated with the tastant.

28. The method of claim 26, where the test inhibitor was found to inhibit the activation of a G-protein by the bitter tastant.

29. The method of claim 27, where the test inhibitor elicits the perception of a sweet taste.

30. A method of inhibiting a bitter taste resulting from contacting a taste tissue of a subject with a bitter tastant, comprising administering to the subject an effective amount of a bitterness inhibitor.

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31. The method of claim ~~30~~, wherein the bitterness inhibitor is adenosine 5' monophosphate.

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32. The method of claim ~~30~~, wherein the bitterness inhibitor is thymidine 5' monophosphate.

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33. The method of claim ~~30~~, wherein the bitterness inhibitor is adenosine 5' diphosphate.

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34. The method of claim ~~30~~, wherein the bitterness inhibitor is adenosine 3' monophosphate.

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35. The method of claim ~~30~~, wherein the bitterness inhibitor is adenosine 5'-succinate.

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36. The method of claim ~~30~~, wherein the bitterness inhibitor is adenosine 5' triphosphate.

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37. The method of claim ~~30~~, wherein the bitterness inhibitor is adenosine 2' monophosphate.

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38. The method of claim ~~30~~, wherein the bitterness inhibitor is 5'-cytidylic acid.

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39. The method of claim ~~30~~, wherein the bitterness inhibitor is inosinic acid.

40. A method of inhibiting a bitter taste of a composition, comprising

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incorporating, in the composition, an effective amount of a bitterness inhibitor.

41. The method of claim 40, wherein the bitterness inhibitor is adenosine 5' monophosphate.

42. The method of claim 40, wherein the bitterness inhibitor is thymidine 5' monophosphate.

43. The method of claim 40, wherein the bitterness inhibitor is adenosine 5' diphosphate.

44. The method of claim 40, wherein the bitterness inhibitor is adenosine 3' monophosphate.

45. The method of claim 40, wherein the bitterness inhibitor is adenosine 5'-succinate.

46. The method of claim 40, wherein the bitterness inhibitor is adenosine 5' triphosphate.

47. The method of claim 40, wherein the bitterness inhibitor is adenosine 2' monophosphate.

48. The method of claim 40, wherein the bitterness inhibitor is 5'-cytidylic acid.

49. The method of claim 40, wherein the bitterness inhibitor is inosinic acid.

50. A method of producing the perception of a sweet taste by a subject, comprising administering, to the subject, a composition comprising a compound that acts as a bitterness inhibitor in addition to eliciting a sweet taste.

51. A composition comprising a bitter tastant and a bitterness inhibitor, where the bitterness inhibitor is present at a concentration which inhibits bitter taste perception.

52. The composition of claim 51, wherein the bitterness inhibitor is adenosine 5' monophosphate.

53. The composition of claim 51, wherein the bitterness inhibitor is thymidine 5' monophosphate.

54. The composition of claim 51, wherein the bitterness inhibitor is adenosine 5' diphosphate.

55. The composition of claim 51, wherein the bitterness inhibitor is adenosine 3' monophosphate.

56. The composition of claim 51, wherein the bitterness inhibitor is adenosine 5'-succinate.

57. The composition of claim 51, wherein the bitterness inhibitor is adenosine 5' triphosphate.

58. The composition of claim 51, wherein the bitterness inhibitor is adenosine 2' monophosphate.

59. The composition of claim 51, wherein the bitterness inhibitor is 5'-cytidylic acid.

60. The composition of claim 51, wherein the bitterness inhibitor is inosinic acid.

61. A composition comprising a bitter tastant and a bitterness inhibitor, where the bitterness inhibitor is present at a concentration which inhibits bitter taste perception and which elicits the perception of a sweet taste.

62. A composition comprising a bitterness inhibitor, where the bitterness inhibitor is present at a concentration which elicits the perception of a sweet taste.

63. A method for identifying a bitter tastant comprising (i) contacting a taste receptor with a G-protein, selected from the group consisting of transducin and gustducin, and a test tastant, under conditions suitable for activation of the G-protein by the test tastant, and measuring the level of G-protein activation; (ii) in a separate experiment, contacting a taste receptor with a G-protein selected from the group consisting of transducin and gustducin, the test tastant, and a bitterness inhibitor, and measuring the level of G-protein activation, where the G-protein is the same as that used in part (i), and where the conditions are essentially the same as in part (i); and then (iii) comparing the level of activation of the G-protein measured in part (i) with the level of activation of the G-protein measured in part (ii), wherein a lower level of activated G-

protein in the presence of the bitterness inhibitor has a positive correlation with an ability of the test tastant to elicit the perception of a bitter taste.